

# DARWIN'S PLOTS

*Evolutionary Narrative in Darwin, George Eliot  
and Nineteenth-Century Fiction*

*Second Edition*

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*‘Pleasure like a tragedy’:  
imagination and the material world*

Darwin’s early autobiographical fragment, written in August 1838, just before he thoroughly stabilised the implications of his views on ‘transmutation’, describes his earliest memories. They are of fear, astonishment, the pleasure of collecting and naming – and the pleasures and dangers of storytelling (or lying). The stories he invented in his childhood were designed to impress and astonish himself and others. His passion for fabulation expressed both a desire for power and an attempt to control the paradoxes by which he was surrounded. At the same time he was exhilarated by the intensity of paradox. He was vividly conscious of the substantiality of what he had made up.

I was in those days a very great story-teller . . . I scarcely ever went out walking without saying I had seen a pheasant or some strange bird (natural history taste); these lies, when not detected, I presume excited my attention, as I recollect them vividly, not connected with shame, though some I do, but as something which by having produced a great effect on my mind, gave pleasure like a tragedy. I recollect when I was at Mr. Case’s inventing a whole fabric to show how fond I was of speaking the *truth*! My invention is still so vivid in my mind, that I could almost fancy it was true, did not memory of former shame tell me it was false.<sup>1</sup>

The prowess of invention gives him ‘pleasure like a tragedy’. This arresting description exactly conveys the *fullness* and the density of his imaginative life: the power of lying, of invention, of telling and not telling, fuels his passion for discovery: ‘I distinctly recollect the desire I had of being able to know something about every pebble in front of the hall door’, ‘I was very fond of gardening, and invented some great falsehoods about being able to colour crocuses as I liked.’ The enduring and obdurate sense of the reality of these inventions which accompanies his sense of their absurdity – the surviving hope that lies are a form of truth-discovery – is both wonderfully comic and wonderfully full of insight.

When Darwin was disbelieved as a boy and had to acknowledge his claims false, he felt shame. Only by means of shame did he thoroughly disbelieve. When he reached his theory of natural selection he kept quiet about it. That powerful impulse to long-continued secrecy in which to relish and develop his own imagined story of a past for the life of our planet, that pleasure in invention, thrives still in the activity of mind which endured over twenty years from the early notebooks, through the two sketches, to the incomplete Big Book and the completed *Origin of Species*.<sup>2</sup> The brief sketch quoted above was written at the height of his imaginative powers, while his mind and his notebooks were thronging (but silently) with his as yet unuttered and unorganised story of metamorphosis, transmutation, and selection. It may be that the length of the account of his story-telling or lying, compared with his other memories, registers an elation and a creative disturbance newly felt again in 1838 by the young Darwin, akin to that which he had experienced as a ten-year-old.

Darwin's own later comments emphasised the loss of his aesthetic powers. In the autobiographical account written for his family towards the end of his life, he summarises in a pained and self-denigrating passage his loss of response.

I have said that in one respect my mind has changed during the last 20 or 30 years. Up to the age of thirty, or beyond it, poetry of many kinds, such as the works of Milton, Gray, Byron, Wordsworth, Coleridge and Shelley, gave me great pleasure, and even as a schoolboy I took intense delight in Shakespeare especially in the historical plays. I have also said that formerly Pictures gave me considerable, and music very great delight. But now for many years I cannot endure to read a line of poetry: I have tried lately to read Shakespeare and found it so intolerably dull that it nauseated me. I have also almost lost any taste for pictures or music. – Music generally sets me thinking too energetically on what I have been at work on, instead of giving me pleasure. I retain some taste for fine scenery, but it does not cause me the exquisite delight which it formerly did. My mind seems to have become a kind of machine for grinding general laws out of large collections of facts, but why this should have caused the atrophy of that part of the brain alone, on which the higher tastes depend, I cannot conceive.<sup>3</sup>

This later clouding of his affective powers has been read back by many commentators into far too early a period of his life. A somewhat similar argument is usual concerning his reading of fiction: because in his later life he liked to have novels read aloud to him and preferred those with a happy ending, it is assumed that he was a naïve reader, irresponsible to the range of literary experience.<sup>4</sup>

Darwin's pleasure in an extraordinary range of writing during his earlier life is to be found in his reading-lists for the late 1830s through to the 1850s, now in Cambridge University Library (Notebooks 119, 120, 128). Among his entries from 10 June to 14 November 1840 we find 'Sir Ch. Bell Anatomy of Expression Midsummer N. Dream. Hamlet. Othello. Mansfield Park. Sense and S. Richd 2nd. Poor. Henry IV Northanger Abbey. Simple Story. Johnson's Tour to Hebrides of Boswell. Macaulay Art. on Bacon in Edin. R. Some of Burke's speeches. Some Arabian Nights. Gulliver's Travels. Robinson Crusoe' (Notebook 119). Sir Thomas Browne, Montaigne, Carlyle, and Harriet Martineau are read enthusiastically. In addition the notebooks of the period allude to many writers including Walter Scott, Edmund Spenser, Wordsworth and Byron. It is likely that he consumed rather than analysed. But it would be an error to assume that his reading in literature therefore had any less effect on him. I have examined extensively in an essay elsewhere the interpenetration of Darwin's literary and scientific reading, and the contribution of writers such as Montaigne, Thomas Browne, Scott and Prescott, to the precipitation of his theory, and to his questioning of simple notions of development.<sup>5</sup>

Darwin's ideas profoundly unsettled the received relationships between fiction, metaphor, and the material world. That power of his was nurtured by his omnivorous reading. If we are fully to understand the importance of his reading to the imaginative development of his ideas, we need also to remember the powerful primary reading which preceded this of young adulthood: the immersive reading experienced in childhood and youth.

This unguarded reading is less controlled in its reception, less capable of being held at bay than any later appreciation. It creates shapes for experience, and those shapes endure into the experience we undergo in adult life also. Our projects and expectations draw on early imaginative habits. This gives a particular value to his boyhood enthusiasm for Shakespeare, particularly the history plays. The intimacy and solitariness of his contact with Milton, the one book he never left behind when he set out on his isolated land-journeys from the *Beagle*, also places it in a particular position. The sustenance he drew from such sources has its bearing on the formation of his ideas and on their mythopoeic powers. His literary resources affect, too, his reception of the *implications* of Malthus's ideas. As an example let us examine briefly some ways in which his reading of Shakespeare and Milton may have contributed to his imaginative intellectual development.

He describes himself when a young boy sitting for hours in a window seat avidly reading the history plays. They emphasise the need for stable succession in order to preserve order and government, to preserve, indeed, the idea of the nation and the race. They presented Darwin with one genetic pattern for interpreting the relationship between race and time. The blood succession becomes a means of stemming the tide of time – replication is emphasised and change is accommodated – the dead king is replaced by a live king whose blood succession ensures that no radical alteration has taken place. Each produces ‘after his kind’. In kingship the aspect of *restoration* is intensified, and succession becomes not a means of change but a way of standing still. Buckingham seeks to persuade Gloucester of his lineal right and duty of succession:

Know then, it is your fault that you resign  
 The supreme seat, the throne majestic,  
 The scepter'd office of your ancestors,  
 Your state of fortune and your due of birth,  
 The lineal glory of your royal house,  
 To the corruption of a blemish'd stock . . .  
 This noble isle doth want her proper limbs;  
 Her face defaced with scars of infamy,  
 Her royal stock graft with ignoble plants . . .

(Richard III: III, 7, 117–22, 124–6)

The imagery of stock and of engrafting which is so powerfully used throughout the history plays lies somewhere between metaphor and substantiality. The fortunes of families, like plants, will be affected and can to some extent be controlled by conscious breeding and by mingling the qualities of specified stock. Darwin's argument in *The Origin of Species* was based from the outset on the same analogy of husbandry: man's agency in the development of particular properties demanded in plants and animals is compared with the activity of nature in selection and preservation of the characteristics most useful to the individuals of the race themselves. Man breeds plants and animals to serve *man's* ends – not particularly to benefit the plants or animals. In contrast, Darwin asserted, natural processes breed always for the good of the individuals of the race concerned.<sup>6</sup> This is a crucial distinction in his argument and again points to the benevolism of his view of nature, despite his full awareness of how harsh life may be to specific individuals.

In the next example we see how Darwin's literary reading helped to form and to articulate the polarities of his thought.



Almost all commentators follow Darwin himself in stressing the importance of reading Malthus for the precipitation in his imagination of his already half-formed notion of natural selection.<sup>7</sup> What has not been sufficiently recognised, however, is the extent to which Darwin transformed the imaginative tone and emotional balance and hence the intellectual potentialities of Malthus's concept. Malthus opens his essay *On Population* with a passage in which celebration and alarm are finely balanced as he describes the energy of fecundity.

It is observed by Dr. Franklin, that there is no bound to the prolific nature of plants or animals, but what is made by their crowding and interfering with each others means of subsistence. Were the face of the earth, he says, vacant of other plants, it might be gradually sowed and overspread with one kind only, as for instance with fennel, and were it empty of other inhabitants, it might in a few ages be replenished from one nation only, as for instance with Englishmen. This is incontrovertibly true. Through the animal and vegetable kingdoms Nature has scattered the seeds of life abroad with the most profuse and liberal hand; but has been comparatively sparing in the room and the nourishment necessary to rear them. The germs of existence contained in this earth, if they could freely develop themselves, would fill millions of worlds in the course of a few 1000 years. Necessity, that imperious, all pervading law of nature, restrains them within the prescribed bounds. The race of plants and the race of animals shrink under this great restrictive law; and man cannot by any efforts of reason escape from it.<sup>8</sup>

Any single species of plant or animal whose propagation went unchecked could rapidly colonise and take over the entire world, leaving no place for any other. Malthus goes on from this to propose that the reproductive energies of man, if not curtailed, must always outstrip the means of providing him with food. To Malthus fecundity was a danger to be suppressed – particularly by draconian measures among the human poor. To Darwin fecundity was a liberating and creative principle, leading to increased variability, increased potential for change and development. Because of the myriad super-productiveness of natural generative process, the range of individuality and of possible mutation is immense. And here it becomes important to remember two books which accompanied him on the voyage of the *Beagle*, when he was imaginatively at his most responsive. One of them was Lyell's *Principles of Geology*. The other, which he says in his *Autobiography*<sup>9</sup> was the one book that he never left behind, taking it with him on the long land expeditions from the *Beagle*, was Milton's poems.<sup>10</sup>

What kinds of imaginative sustenance did Milton offer to Darwin at this intensely formative period? One of the crucial discoveries that came

to Darwin as a result of the voyage was that the green control of English landscape with its many man-induced harmonies and its sober beauties could not be considered normative. Beyond England lay other natural landscapes full of tumultuous colour and life. The full range of sense experience fills out and disturbs the narrowly descriptive authority of the scientific collector.

Who when examining in the cabinet of the entomologist the gay exotic butterflies, and singular cicadas, will associate with these lifeless objects, the ceaseless harsh music of the latter, and the lazy flight of the former – the sure accompaniments of the still, glowing noonday of the tropics? It is when the sun has attained its greatest height that such scenes should be viewed: then the dense splendid foliage of the mango hides the ground with its darkest shade, whilst the upper branches are rendered from the profusion of light of the most brilliant green . . . When quietly walking along the shady pathways, and admiring each successive view, I wished to find language to express my ideas. Epithet after epithet was found too weak to convey to those who have not visited the intertropical regions, the sensation of delight which the mind experiences.<sup>11</sup>

Darwin walks the tropical forests with Milton. His intense sense-arousal takes him beyond his own power of language.

The discovery of diversity and of profusion were of equal importance. The rich, even ecstatic, descriptions which Darwin gives of his travels allow some glimpse of the happiness his experiences engendered. His natural world came close to justifying Comus's earlier (and very anti-Malthusian) view of natural superabundance and the prodigal productivity of the earth. Comus, voluptuary and bacchic villain, interprets the abundance of the world as all being provided for the pleasuring of man:

Wherefore did Nature pour her bounties forth,  
With such a full and unwithdrawing hand,  
Covering the earth with odors, fruits, and flocks,  
Thronging the seas with spawn innumerable,  
But all to please, and sate the curious taste? (710–14)

He claims that not only has man the right to indulge his luxurious appetites but the duty to do so. Else Nature 'would be quite surcharged with her own weight',

And strangled with her waste fertility;  
Th'earth cumbered, and the winged air darked with plumes;  
The herds would over-multitude their lords . . . (728–31)

Comus's speciously libertarian arguments are countered by the Lady he has imprisoned; she insists that the appearance of over-plenty comes

from the imbalance of want and superfluity among men. Instead of a few men engrossing all natural wealth, what is needed is a more even distribution of plenty.

Darwin's preoccupations at this time are with fertility, the mechanisms of increase and generation and the significances of these for the development of nature through time. In Milton's *Comus* the characters assume that man is at the centre of all concern, and at the top of a hierarchy of nature: 'The herds would over-multitude their lords.' The tendency of all Darwin's earlier unpublished work is to displace man from his central position and to look at the organisation of nature from the point of view of other species and orders of life. So, words that in other contexts have a specifically human application, such as 'inhabitants', in his writing apply equally to all species of animal or vegetable life. The debate in *Comus* provided Darwin with a vantage point from which to consider problems formulated by Malthus: problems of increase, profusion and penury.

When Milton reaches the account of the third day of creation in the seventh book of *Paradise Lost* he describes the parting of the earth and the water:

over all the face of earth  
Main ocean flowed, not idle, but with warm  
Prolific humor soft'ning all her globe,  
Fermenting the great mother to conceive,  
Sate with genial moisture: when God said,  
'Be gathered now, ye waters under heav'n,  
Into one place, and let dry land appear.' (278–86)

The imagery of creation in *Paradise Lost* is that of sexual congress and impregnation, a voluptuously loving insistence upon the female nature of the earth:

the tender Grass, whose verdure clad  
Her Universal Face with pleasant green (315–16)

There is in every line a representation of superabundance, variety, and plenty, 'the Sounds and Seas each Creek and Bay With Frie innumerable swarme'.

In *Paradise Lost* Darwin met the full poetic expression of 'separate creation', of fully formed, full-grown species. Sexuality there expresses itself as lyrical union, rather than as generation, descent. Milton also emphasises the direct birth of life from sea and earth: 'the Ounce, the Libbard, and the Tyger,' all emerge out of the earth:

The grassie clods now calved, now half appeared  
 The tawnie lion, pawing to get free  
 His hinder parts . . . (463–5)

The surreal completeness of this issue from primary matter is also the supreme compression of time:

aire, water, earth,  
 By fowl, fish, beast, was flown, was swum, was walked  
 Frequent: and of the sixth day yet remain't. (502–4)

Milton's account extends the dreamlike qualities of Genesis – replacing its assurance of plenitude with a fantastically articulated display of specific life.

Darwin was to rejoice in the overturning of the anthropocentric view of the universe which Milton emphasises, yet his language made manifest to Darwin, in its concurrence with his own sense of profusion, density, and articulation of the particular, how much could *survive*, how much could be held in common and in continuity from the past. Milton gave Darwin profound imaginative pleasure – which to Darwin was the means to understanding.

This sense of *continuity* of culture and insight had an emotional and indeed theoretical importance for Darwin. It accorded with the uniformitarianism he had derived from Lyell. 'Natura non facit saltum' – and neither it seems does mind. Darwin was at pains to emphasise the *congruity* of his images with those previous myth-systems rather than iconoclastically to throw them aside.

In Genesis we read:

And out of the ground made the Lord God to grow every tree that is pleasant to the sight, and good for food: the tree of life also in the midst of the garden, and the tree of knowledge of good and evil.

The 'tree of life' is set over against – as well as alongside – 'the tree of knowledge of good and evil'.

In the M notebook one of Darwin's most extended discussions of the imagination at work describes the train of thought most full of pleasure to a botanist:

the botanist might so view plants and animals. – I am sure I remember my pleasure in Kensington Gardens has often been greatly excited by looking at trees at (i.e. as) great compound animals united by wonderful and mysterious manner.

This sense of the resourcefulness of life in trees, their analogical likeness to 'great compound animals', articulates one strand in Darwin's use of

the tree image as part of a complex scheme of reference in *The Origin of Species*.

Darwin's problem in relation to the theology of his age is expressed in the image of two contrasted trees – life versus knowledge. In his argument and its expression he found a means of condensing this image so that the two opposed trees could prove to be one.

He knew well that there are still tracts of forbidden knowledge but he did not allow himself to be deflected from the implications of his 'System'. Amid the noble trees of Paradise stood the Tree of Life:

High eminent, blooming Ambrosial Fruit  
Of vegetable Gold.

In the Notebooks and later in *The Origin* Darwin fastens on the image of the tree<sup>12</sup> to express evolutionary organisation. In doing this he rebuts the Lamarckian idea of a chain of progression – and with it the older hierarchical organisation of the 'great chain of being', its ascending orders of existence each working like a substitute, a more earthbound version of its own platonic idea. The idea of the great chain places forms of life in fixed positions which are permanent and immobile. Quintessential to its organisation is the idea of degree.

Darwin needed a metaphor in which degree gives way to change and potential, and in which form changes through time. He did not simply adopt the image of a tree as a similitude or as a polemical counter to other organisations. He *came upon it* as he cast his argument in the form of diagram. This 'materialisation' of the image is important in understanding its force for him. It was substantial, a condensation of real events, rather than a metaphor. Here we come back to the problems he faced in adapting the language available to him (a language so steeped in natural theological suggestions) to a world of material history in which things must find their explanations, their analogies, and their metaphors, within the material order.

The multivocality of Darwin's language reaches its furthest extent in the first edition of *The Origin of Species*. His language is expressive rather than rigorous. He accepts the variability within words, their tendency to dilate and contract across related senses, or to oscillate between significations.<sup>13</sup> He is less interested in singleness than in mobility. In his use of words he is more preoccupied with relations and transformations than with limits. Thus his language practice and his scientific theory coincide.

Once *The Origin* was published Darwin became far more aware of the range of implications carried by this generous semantic practice. It

was brought home to him that many of his terms could mean more and other than he could control.<sup>14</sup> He defended his theory in succeeding editions by paring away multiple significations, trying at points of difficulty to make his key terms mean one thing and one thing only, as in the case of Natural Selection. Such labour came hard to him. The exuberantly metaphorical drive of the language of *The Origin* was proper to its topic. The need to establish more parsimonious definitions and to combat misunderstanding may help to account for that dimming of his imaginative powers which he so deeply regretted.

Darwin's discourse is of the kind that George Eliot characterised as expressing 'life'.

Suppose, then, that the effort which has been again and again made to construct a universal language on a rational basis has at length succeeded, and that you have a language which has no uncertainty, no whims of idiom, no cumbrous forms, no fiftful shimmer of many-hued significance, no hoary archaisms 'familiar with forgotten years' – a patent de-odorized and non resonant language, which effects the purpose of communication as perfectly and rapidly as algebraic signs. Your language may be a perfect medium of expression to science, but will never express *life*, which is a great deal more than science.<sup>15</sup>

Darwin's is not an austere Cartesian style. There are few lean sentences in *The Origin of Species*. According to his son Francis he often laughed at himself 'for the difficulty which he found in writing English, saying, for instance, that if a bad arrangement of a sentence was possible, he should be sure to adopt it'. He felt the problems of obscurity – the over-rapid condensation of argument and insight which dwells at length on inessential features because the deep connections are already so evident to the writer that they scarcely bear reformulation. His son remarks that his style is 'direct and clear'. Though there is some truth in this, the effect does not derive from actual ordering of the sentences, which is often tortuous. Rather it derives from the frequent intervention of the first person and from what Francis Darwin calls the 'courteous and conciliatory tone towards his reader'.<sup>16</sup> 'The tone of such a book as *The Origin* is charming, and almost pathetic . . . The reader is never scorned for any amount of doubt which he may be imagined to feel, and his scepticism is treated with patient respect.'

The book seeks to persuade, not by any attempt to 'force belief' but through a more and more intricate taking in of possible causes of disbelief and the elaboration of doubts. It has in that sense the fullness of a Utopian text, much of whose pleasure comes from the marshalling

of insight and detail (a kind of ethnography of his ideal world) rather than from a simply ideological extrapolation from facts. Darwin's description of 'the polity of nature' is thorough and warm, giving an impression of benign fullness even while it points out loss, failure, and struggle.

The need to *please* his readers as well as to unsettle and disturb them is as vital to Darwin as it was to Dickens. Darwin gives to pleasure and to happiness a privileged place in the evidence for his 'view of things' (as he always calls his hypothesis early in his career): 'the happy survive and multiply'. Late in his life he wrote directly about the relationship between happiness and natural selection in his *Autobiography*:

But passing over the endless beautiful adaptations which we everywhere meet with, it may be asked how can the generally beneficent arrangement of the world be accounted for? Some writers indeed are so much impressed with the amount of suffering in the world, that they doubt if we look to all sentient beings, whether there is more of misery or of happiness, – whether the world as a whole is a good or bad one. According to my judgment happiness decidedly prevails, though this would be very difficult to prove. If the truth of this conclusion be granted it harmonises well with the effects which we might expect from natural selection . . . Now an animal may be led to pursue that course of action which is the most beneficial to the species by suffering, such as pain, hunger, thirst and fear, – or by pleasure, as in eating and drinking and in the propagation of the species &c. or by both means combined as in the search for food. But pain or suffering of any kind, if long continued, causes depression and lessens the power of action; yet is well adapted to make a creature guard itself against any great or sudden evil. Pleasurable sensations, on the other hand, may be long continued without any depressing effect; on the contrary they stimulate the whole system to increased action. Hence it has come to pass that most or all sentient beings have been developed in such a manner through natural selection that pleasurable sensations serve as their habitual guides.<sup>17</sup>

In *The Origin* itself the panglossist tendency of this argument is uneasily phrased in a way that indicates an unresolved trouble in his mind about the necessity for the concepts of struggle and extinction in his hypothesis:

When we reflect on this struggle, *we may console ourselves with the full belief*, that the war of nature is not incessant, that no fear is felt, that death is generally prompt, and that the vigorous, the healthy, and the happy survive and multiply. [my italics] (128)

'We may console ourselves' does not quite square with the implication of 'full belief' and he has recourse to biblical allusion to enforce his conclusion: 'survive and multiply'. The belief that the organisation of things tends to produce happiness is to be found in much natural theological

writing. Darwin's mature work sought to repudiate natural theological explanations. But he had studied Paley's *Evidences of Christianity* when he was preparing for his B.A. and said that it was the one exercise which was of any value to his general education, and that he felt the same physical thrill of delight when reading Paley's proofs as when reading Euclid. Traces of this influence persist in his tendency to interpret the order of things as benign, though not designed specifically for man.<sup>18</sup>

Throughout his struggle with the language he had inherited Darwin strove to renew the fullness of *things in themselves* and to avoid the platonic scheme which makes of things insufficient substitutes for their own idea. He persistently controverts all attempts to distinguish meaning from matter. For him meaning inheres in activity and in interrelations. It cannot be referred out or back to 'some unknown scheme of creation', which would justify appearance in terms of its prior system.

Darwin's zest for the observable world shapes imaginatively the particular discoveries he can make. It lances him out not only into history but into the material of the present. It warms the random, with its meagreness and insignificance, into profusion. His imagination is liberated by his relish for fertility, reproduction, generation, variety in all the species of life: 'Ribston-pippin or Codlin-apple' (88), heartsease and red clover (125), leaf-eating and bark-feeding insects (133), petrels, auks, grebes and water-ouzzels (216), in his favourite pigeons 'pouters, fantails, runts, barbs, dragons, carriers, and tumblers' (424), the Ibla and the Proteolepas (186), crustacea and Mollusca (214) and the webs of dependency between aphids and ants, coral and chalk and the bones of tertiary mammals (299) – 'Even the now inert domain of geology is composed in large measure of the compacted remains of living forms.'

Darwin lives in a doubly profuse world – the plenitude of present life, its potential for both development and death, and the recessional and forgotten multitudes which form the ground of the present:

It is highly important for us to gain some notion, however imperfect, of the lapse of years. During each of these years, over the whole world, the land and the water has been peopled by hosts of living forms. What an infinite number of generations, which the mind cannot grasp, must have succeeded each other in the long roll of years! Now turn to our richest geological museums, and what a paltry display we behold! (297)

That awareness of an unfathomable past whose individualities are wholly lost, and rarely human, is one of the traits in Darwin's writing to which Hardy most sensitively responded. In *Tess of the d'Urbervilles* he describes the milking shed whose wooden posts are 'rubbed to a glossy



smoothness by the flanks of infinite cows and calves of bygone years, now passed to an oblivion almost inconceivable in its profundity'.

The evanishing of matter, even the most recalcitrantly enduring, gives a particular poignancy to Darwin's feeling for materiality. His materialism is a sensuously grounded response to the world of forms and life, not an excluding or purely abstracting force. It is the stress between his delight in the individual example and his sense of it as minute and transient when viewed within the extent of evolutionary time which creates the difficult combination of urgency and massiveness in his ideas and his style.

The idea of the individual is established in the first sentence of chapter I of *The Origin*:

When we look to the individuals of the same variety or sub-variety of our older cultivated plants and animals, one of the first points which strikes us, is, that they generally differ much more from each other, than do the individuals of any one species or variety in a state of nature. (71)

The individual is the most specific, the most *material*, evidence and such study guards against a too rapid systematisation which will appear to resolve difficulties by grouping likeness and leaving out unlikeness. Francis Darwin commented that his father had the quickest eye for exceptions of any thinker he knew and Darwin himself considered his recognition of the exception, the anomalous, even in minutest instances, to be one of the characterising strengths of his mind. Such recognition comes from a highly developed response to individuation as well as from an irresistible power of perceiving patterns.

Darwin's romantic materialism which resulted in a desire to substantiate metaphor, to convert analogy into real affinity, should be understood as part of a profound imaginative longing shared by a great number of his contemporaries. Materialism was not simply an abstraction. Its emphasis upon natural forms and upon organisms could comfort as well as disturb. The palpable, the particular, became not only evidence, but ideal. Evolutionary theory suggested that fixed laws no longer implied a fixed universe of matter. Instead everything was subject to irreversible change. Whole species had vanished and even the evidence of their existence had crumbled away. The concept was more absolute than that of Heraclitus: flux suggests change and reassemblage. But the geological and natural historical evidence of nineteenth-century theory suggested irretrievable loss, made tolerable perhaps by the extreme slowness of the process postulated first by Lyell and then by Darwin.

Lyell's central argument in *The Principles of Geology* was that earlier geologists had unwarrantably assumed a discrepancy between previous and present agents of change and had supposed the earth to be now in a 'period of repose' after periods of catastrophe:

Never was there a dogma more calculated to foster indolence, and to blunt the keen edge of curiosity, than this assumption of the discordance between the former and existing causes of change. It produced a state of mind unfavourable in the highest conceivable degree to the candid reception of the evidence of those minute, but incessant mutations, which every part of the earth's surface is undergoing, and by which the condition of its living inhabitants is continually made to vary. (III,3)

Like Darwin whom he so much influenced, he emphasises both congruity of cause and 'those minute, but incessant mutations'. Both concepts are encapsulated for Lyell in the term 'uniformitarian'. So continuity of cause is stressed equally with incessant change.

The individual organism does not evolve in the course of its life. Though it takes part in the evolutionary process, it does so only through generation, not through any happening within its own life cycle. The individual is thus both vehicle and dead end. This Darwinian insight may not yet have been fully articulate for many Victorians (and indeed it has remained one of the least institutionalised of Darwin's ideas). But they clearly felt a new and urgent poignancy in the particular.

At the centre of such uneasiness was the problem of teleology and its relation to materialism.<sup>19</sup> Is there an ultimate or precedent design in the universe and hence in our experience? Or, in an alternative formulation, do we live in a universe where natural objects generate their own laws?

Natural selection and adaptation suggested that there could be no precedent design, since conformity of need between organism and medium was the result of chance congress. Aristotle in the *Physics*, book II, chapter 8 had considered the possibility that 'such things survived, being organized spontaneously in a fitting way; whereas those which grew otherwise perished and continued to perish'. But Aristotle rejected this idea of natural survival: 'Yet it is impossible that this should be the true view. For teeth and other material things either universally or normally come about in a given way; but of not one of the results of chance or spontaneity is this true.' That is, he could not see any inherent causal sequence in such an order and this led him to reject it. The absence of goal here implies absence of order.

The elements of the haphazard lurked in the material of Darwin's theory and Herschel elaborated his reaction that it was 'the law of

higgledy-piggledy' through an analogy with literary production. In the 1868 edition of his *Physical Geography of the Globe* he writes:

We can no more accept the principle of arbitrary and casual variation and natural selection as a sufficient account, per se, of the past and present organic world, than we can receive the Laputan method of composing books (pushed à outrance) as a sufficient account of Shakespeare and the Principia.<sup>20</sup>

Herschel still sought 'intelligent direction': the conflict of interpretation between him and Darwin is between the directed and the random play of forces.

The emphasis on fixed laws in nineteenth-century science and philosophy implies orderliness, though not necessarily design. Uniformitarianism suggests continuity, even a kind of permanence, and can be transformed into covenant and stability.

The humanistic core of Lyell's work is its insistence on the power of man's imagination, which allows him to recuperate the staggeringly extended time-scale of the physical world. Though his presence is diminished in the raw time-scale, his is the only source of powerful *interpretation*. Lyell persistently uses the metaphor of decipherment: for example, he writes of the ancient philosophers: 'the ancient history of the globe was to them a sealed book, and although written in characters of the most striking and imposing kind, they were unconscious even of its existence' (1,26). The 'characters' are physical objects: rocks, animals, and plants. The systematisation and comparison between 'distant eras' brings an 'acknowledgment, as it were, that part at least of the ancient memorials of nature were written in a living language' (1,88).

Darwin adapted from Lyell the metaphor of etymology as a representation of descent and change.<sup>21</sup> So language for Darwin has a 'real affinity' with his theory. The physical world provides its own language-system which may be scanned, interpreted, and *read* into full accord with natural order. But 'reading' does not imply only the interpretation of single words and sentences. It implies narrative order and diverse relations between material and period of telling, sujet and fabula.<sup>22</sup>

The world of forms which the geologist inhabits, the slow phantasmagoria of oceans and continents interchanging, rising and falling as if earth were waves, makes for a tranquil elemental view of the universe, in which time implies an extended scale of existence beyond the span of our minds. Lyell's descriptions of the errors of past cosmogonists bring home his sobered awareness of time past. Here a stone moves, there a ridge slides, but the countervailing imagination of man, so limited temporally, can make sense of this process if he thinks structurally. The

past can be played at any speed. Lyell chooses to unroll it at a pace which organises it into a knowable and majestic music.

The past of the organic world cannot be similarly shifted in our minds, because here we are dealing with comprehensible time spans – ten years for a dog, a few days for a daisy, hundreds of years for trees and thousands for corals – set against unthinkable millions of years. What Darwin emphasises is relationship – the ordinary chain of generation – the sense of progeny and diversification, of a world in which profusely various forms co-exist, unseen and yet dependent on each other and related to each other by blood or need.

How have all those exquisite adaptations of one part of the organization to another part, and to the conditions of life, and of one distinct organic being to another being, been perfected? We see these beautiful co-adaptations most plainly in the wood-pecker and mistletoe; and only a little less plainly in the humblest parasite which clings to the hairs of a quadruped or feathers of a bird . . . in short, we see beautiful adaptations everywhere and in every part of the organic world. (114–15)

The question of congruity between language and physical order is evidently related to teleological issues, just as narrative order brings sharply into focus the question of precedent design. Victorian novelists increasingly seek a role for themselves within the language of the text as observer or experimenter, rather than as designer or god. Omniscience goes, omnipotence is concealed.<sup>23</sup>

The loss of omniscience is felt particularly in fiction where the design of the narrative and the activity of narration would seem to imply an organising power. Writers could no longer easily share the Shaftesburyian ethic that the artist is imitating God – illustrating the benign organisation necessarily justified in shaping our ends. The 'Providential' organisation of fiction becomes a conscious issue: in *Jane Eyre* dreams, omens and portents sustain and guide the heroine. They are messengers from beyond the self. Yet they tally with the self's deepest needs, they endorse the unconscious. The organisation of Dickens's novels shifts from the picaresque, which can include the random events of every day in the onward dynamism of the journey, to a profuse interconnection of events and characters so extreme as to seem to defy any overall meaning. Instead the activity of such novels ranges out towards infinity rather in the manner of medieval ornament.

The preoccupation with materiality in Dickens takes comic and menacing forms. People are seen formulaically, like objects, and objects are endowed with the energy traditionally reserved for organic life: chimneys

lour, drainpipes creep. Moreover, Dickens and other novelists such as Elizabeth Gaskell even sought physically to affect their reader: we are to laugh and weep as we read: rictus and wetness. We are to be physically disarranged by the reading experience. Though this may seem a far cry from Darwin's emphasis on substantiation, there is the identical drive towards confirming experience by appeal to the physical and the material, changing language into physical process. We see another form of it in the 'sensation' novel.<sup>24</sup>

The loss of teleological order is sometimes countered in Victorian writing by the speaking voice. An idiosyncratic, often grotesquely individual, yet accessible human voice is suggested syntactically and semantically. This voice has a life of its own; it addresses us. At times it is purely instrumental, expressing the activity of the characters, but at other times it asserts an individuality which goes beyond and runs askance from the events of the novel. This same insistence on the human subject – Darwin as writer writing, observer observing, voice addressing – is characteristic of Darwin's prose.

The common language of scientific prose and literary prose at this period allowed rapid movement of ideas and metaphors to take place. It is clear that in *The Origin* Darwin was writing not only to the confraternity of scientists but with the assumption that his work would be readable by any educated reader. And 'educated reader' here must imply not simply a level of literacy but a level of shared cultural assumption and shared cultural controversy.

Writing rapidly, Darwin drew upon the imaginative orderings and the narrative formulations of his contemporaries, as well as writing *to* them. One particular current intellectual ideal of nineteenth-century European culture intensified the impact of scientific theory as well as affecting its terms; the ideal of *synthesis*, a panoptic scope which sought similarities between remote disciplines (as in Herbert Spencer's *Synthetic Philosophy*) and which analysed such similarities morphologically, as in general systems study today.<sup>25</sup> Another such ideal was that of relations, implicit in organicism, which in prose allowed the rapid transformation of one kind of reference into another – economics into art history into race-theory, say – the kind of organisation which made for energy and obscurity in Carlyle and Ruskin, and which depended for much of its power on a sense of the profusion of the world and its instances. Carlyle, indeed, wrote that Ruskin 'twisted . . . geology into morality, theology, Egyptian mythology, with fiery cuts at political economy'.<sup>26</sup>

Sometimes, as in the Great Exhibition of 1851, profusion and variety become the *topic*, and the ordering principle is purely location. The profusion and variety of the world is brought together in one place to be displayed, controlled, and categorised – an activity which mimics taxonomy but also mimics possession and imperial garnering. The head of the title page of the Official Descriptive Catalogue insisted on another owner: 'The earth is the Lord's and all that therein is: the compass of the world and they that dwell therein.' To quote Goldmann, relations of structure:

often occurring where there is no apparent relation of content, can show us the organizing principle by which a particular view of the world, and from that the coherence of the social group which maintains it, really operates in consciousness.<sup>27</sup>

Darwin's theories profoundly unsettled the organizing principles of much Victorian thinking but it is all the more worth registering, therefore, the extent to which the relations of structures in his work initially share common concerns, and draw on orderings of experience learnt from other writers of the time.<sup>28</sup> The sense that everything is connected, though the connections may be obscured, gave urgency to the enterprise of uncovering such connections. This was a form of plotting crucial to Dickens's work, as we can see, for example, in *Bleak House*, where the fifty-six named – and many more unnamed – characters all turn out to be related by way either of concealed descent (Esther and Lady Dedlock) or of economic dependency ('The dependency of one organic being on another, as of a parasite on its prey, lies generally between beings remote in the scale of nature'). The work demonstrates the terrible redundancy of human kind (Tom All Alone's) and shows all the interconnections, all the family history codified and obfuscated in the arid law-court proceedings of the will which has set Jarndyce v. Jarndyce. As the book proceeds the immense assemblage of apparently contingent characters is ordered and reordered into multiple sets of relations so that we discover that all of them are interdependent. What at first looks like agglomeration proves to be analysable connection.

The unruly superfluity of Darwin's material at first gives an impression of superfecundity without design. Only gradually and retrospectively does the force of the argument emerge from the profusion of example. Such profusion indeed, *is*, as in Dickens, the argument: variability, struggle, the power of generation and of generations, the 'broken and failing groups of organic beings' (435) are exemplified

abundantly. In Darwin this takes place through evidences drawn from geology, biology, botany and in a language generatively charged, always dwelling on the particular case, rich in intensives, expostulation, and case histories ransacked for implications. It is with a sense of both surprise and recognition, I think, that the reader comes to the opening of the final chapter 'Recapitulation and Conclusion' which runs: 'As this whole volume is one long argument, it may be convenient to the reader to have the leading facts and inferences briefly recapitulated.'

It is true that the book is one long argument but it proceeds by a strange intermingling of acquisition, concretion, analogy and prophecy. For a book thematically preoccupied with the past, the present tense is extraordinarily predominant. This reinforces the effect of *discovery*, of being on the brink of finding out, rather than sharing an already formulated and arrested discovery, a 'luminous and orderly presentation'. *The Origin of Species* lives that subjective experience of accomplishing scientific objectivity which Bachelard describes in *La formation de l'esprit scientifique*. 'Vivre et revivre l'instant de l'objectivité, être sans cesse à l'état naissant de l'objectification.'<sup>29</sup> Darwin shares with Carlyle and Dickens that use of the prophetic present which leaves no space between us and the future and poises us on the edge of the unknown.